



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/706,423	11/10/2003	Tadahiro Ohmi	FUK-140	6798

7590 01/06/2006

RANDALL J. KNUTH, P.C.
3510-A Stellhorn Road
Fort Wayne, IN 46815-4631



EXAMINER

PASCHALL, MARK H

ART UNIT PAPER NUMBER

3742

DATE MAILED: 01/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

RECEIVED
OIPE/IAP

JAN 17 2006

Office Action Summary

Application No.

10/706,423

Applicant(s)

OHMI ET AL.

Examiner

Mark H. Paschall

Art Unit

3742

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 34 and 35 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 34 and 35 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☒ Certified copies of the priority documents have been received in Application No. 10/100,533.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 11/10/2003.

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Priority

Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been filed in parent Application No. 10/100533, filed on 01/18/2002. **Specification**

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Rejections - 35 USC § 112

Claim 35 recites the limitation "second dielectric plate" in line 3. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 34 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tokuda et al in view of Kamata et al. Tokuda et al teach the claimed subject matter including a plasma chamber 6, dielectric plate 5, gas supply means 21, exhaust means 9, antenna including slot means 39 and electrode for biasing 7. Claim 34 recites the power density as comprising 1.2 W/cm^3 or more. Kamata et al teach a plasma device having such a power density, and enabling less charge damage to the work during the processing. In column 8 lines 26-34 Kamata et al teach use of microwave power of 800 watts. The disclosure also teaches use of higher power. In column 13 lines 39-51, Kamata et al teach the plasma chamber comprising 500mm diameter and 200 mm high. Note that the wattage / cm^3 for 800 watts input does exceed that which is instantly claimed. Also additional power from the biasing electrode is present. Also the plasma is localized between the substrate and the dielectric plate, which space is smaller than the actual dimensions of the chamber used to calculate the power density. In view of this teaching it would have been obvious to modify the Tokuda et al system to use a power density such as set forth in the Kamata et al system, to limit the charge damage during the processing. As per claim 35, the pressure claimed in respect to the second dielectric plate has no patentable weight in view of the indefiniteness of the claim set forth supra.

Art Unit: 3742

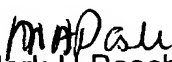
Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Ohmi et al and Yanagida are cited for disclosing pertinent plasma systems.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark H. Paschall whose telephone number is 703 308-1642. The examiner can normally be reached on 7am - 3pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robin Evans can be reached on 571-272-4777. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Mark H Paschall
Primary Examiner
Art Unit 3742

Mp

INFORMATION DISCLOSURE STATEMENT

Atty. Docket No.
FUK-140

Serial No.

Applicant
Tadahiro Ohmi et alFiling Date
November 10, 2003

Group

U.S. PATENT DOCUMENTS

Examiner Initial *		Document No.	Date	Name	Class	Subclass	Filing Date
m	AA	5,525,159	06/96	Hama et al	C23C	16/00	12/16/1994

FOREIGN PATENT DOCUMENTS

		Document No.	Date	Country	Class	Subclass	Translation	
							Yes	No
W	AB	08111297 A	04/96	Japan	H05H	1/46	X	
↑	AC	1-298183	12/90	Japan	C23F	4/00	X	
	AD	08045917 A	02/96	Japan	H01L	21/0365	X	
	AE	3-55832	03/91	Japan	H01L	21/302	X	
	AF	61-265820 A	11/86	Japan	H01L	21/302	X	
	AG	09027397 A	01/97	Japan	H05H	1/46	X	
	AH	5-62911 A	03/93	Japan	H01L	21/205	X	
	AI	07307326 A	11/95	Japan	H01L	21/3065	X	
	AJ	6-224181 A	08/94	Japan	H01L	21/31	X	
↓	AK	63-50475 A	03/88	Japan	C23C	16/50	X	
W	AL	4-221824 A	08/92	Japan	H01L	21/302	X	
	AM							
	AN							
	AO							
	AP							

OTHER REFERENCES (INCLUDING AUTHOR, TITLE, DATE, PERTINENT PAGES, ETC.)

AR	
AS	
AT	

EXAMINER:

m. eschul

DATE CONSIDERED:

12/22/05

*Examiner: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Notice of References Cited	Application/Control No. 10/706,423	Applicant(s)/Patent Under Reexamination OHMI ET AL.	
	Examiner Mark H. Paschall	Art Unit 3742	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-5,134,965	08-1992	Tokuda et al.	118/723MW
*	B	US-5,846,885	12-1998	Kamata et al.	438/729
*	C	US-6,357,385	03-2002	Ohmi et al.	118/723AN
*	D	US-6,013,580	01-2000	Yanagida, Toshiharu	438/710
	E	US-			
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

Organization **IC3700** **RANDOLPH**

Bldg. 400
U. S. DEPARTMENT OF COMMERCE
COMMISSIONER FOR PATENTS
P.O. BOX 1450

ALEXANDRIA, VA 22313-1450

IF UNDELIVERABLE RETURN IN TEN DAYS

OFFICIAL BUSINESS

AN EQUAL OPPORTUNITY EMPLOYER

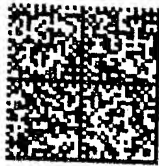


RETURN TO WRITER
Not Deliverable as Addressed
No Forwarding Order on File
46815

not ok



02 1A
0004204479
MAILED FROM ZIP



RECEIVED

JAN 17 2006

USPTO MAIL CENTER